

Amendments to the Claims

1 1. (currently amended) A three-dimensional television system, comprising:
2 an acquisition stage, comprising:
3 a plurality of video cameras, each video camera configured to
4 acquire a video of a dynamically changing scene in real-
5 time;
6 means for synchronizing the plurality of video cameras; and
7 a plurality of producer modules connected to the plurality of
8 video cameras, the ~~producers~~ producer modules
9 configured to compress the videos to compressed videos
10 and to determine viewing parameters of the plurality of
11 video cameras;
12 a display stage, comprising:
13 a plurality of decoder modules configured to decompress the
14 compressed videos to uncompressed videos;
15 a plurality of consumer modules configured to generate a
16 plurality of output videos from the decompressed videos;
17 a controller configured to broadcast the viewing parameters to
18 the plurality of decoder modules and the plurality of
19 consumer modules;
20 a three-dimensional display unit configured to concurrently
21 display the plurality of output videos onto a single
22 display surface according to the viewing parameters; and

23 means ~~of~~ for connecting the plurality of decoder modules, the
24 plurality of consumer modules, and the ~~plurality of~~
25 ~~display units~~ three-dimensional display unit; and
26 a transmission stage, connecting the acquisition stage to the display
27 stage, configured to transport the plurality of compressed videos and the
28 viewing parameters.

1 2. (currently amended) The system of claim 1, further comprising a plurality
2 of cameras to acquire calibration images displayed on the display surface of
3 the three-dimensional display unit to determine the viewing parameters.

1 3. (original) The system of claim 1, in which the display units are projectors.

1 4. (original) The system of claim 1, in which the display units are organic
2 light emitting diodes.

1 5. (original) The system of claim 1, in which the three-dimensional display
2 unit uses front-projection.

1 6. (original) The system of claim 1, in which the three-dimensional display
2 unit uses rear-projection.

1 7. (original) The system of claim 1, in which the display unit uses two-
2 dimensional display element.

1 8. (currently amended) The system of claim 1, in which the display unit ~~is~~
2 uses a flexible fabric, and further comprising passive display elements.

1 9. (currently amended) The system of claim 1, in which the display unit ~~is~~
2 uses a flexible fabric, and further comprising active display elements.

1 10. (original) The system of claim 1, in which different output images are
2 displayed depending on a viewing direction of a viewer.

1 11. (currently amended) The system of claim 1, in which static view-
2 dependent images of an environment are displayed such that a display
3 surface of the display unit disappears.

1 12. (currently amended) The system of claim 1, in which dynamic view-
2 dependent images of an environment are displayed such that a display
3 surface of the display unit disappears.

1 13. (original) The system of claim 11 or 12, in which the view-dependent
2 images of the environment are acquired by a plurality of cameras.

1 14. (original) The system of claim 1, in which each producer module is
2 connected to a subset of the plurality of video cameras.

1 15. (original) The system of claim 1, in which the plurality of video cameras
2 are in a regularly spaced linear and horizontal array.

1 16. (original) The system of claim 1, in which the plurality of video cameras
2 are arranged arbitrarily.

1 17. (original) The system of claim 1, in which an optical axis of each video
2 camera is perpendicular to a common plane, and the up vectors of the
3 plurality of video cameras are vertically aligned.

1 18. (original) The system of claim 1, in which the viewing parameters
2 include intrinsic and extrinsic parameters of the video cameras.

1 19. (original) The system of claim 1, further comprising:
2 means for selecting a subset of the plurality of cameras for acquiring a
3 subset of videos.

1 20. (original) The system of claim 1, in which each video is compressed
2 individually and temporally.

1 21. (original) The system of claim 1, in which the viewing parameters
2 include a position, orientation, field-of-view, and focal plane, of each video
3 camera.

1 22. (currently amended) The system of claim 1, in which the controller
2 determines, for each output pixel $\theta(x, y)$ $o(u, v)$ in the output video, a view
3 number v and a position of each source pixel $s(v, x, y)$ in the decompressed
4 videos that contributes to the output pixel in the output video.

1 23. (original) The system of claim 22, in which the output pixel is a linear
2 combination of k source pixels according to

3
$$o(u, v) = \sum_{i=0}^k w_i s(v, x, y),$$

4 where blending weights w_i are predetermined by the controller based on the
5 viewing parameters.

1 24. (original) The system of claim 22, in which a block of the source pixels
2 contribute to each output pixel.

1 25. (original) The system of claim 1, in which the three-dimensional display
2 unit includes a display-side lenticular sheet, a viewer-side lenticular sheet, a
3 diffuser, and substrate between each lenticular sheets and the diffuser.

1 26. (original) The system of claim 1, in which the three-dimensional display
2 unit includes a display-side lenticular sheet, a reflector, and a substrate
3 between the lenticular sheets and the reflector.

1 27. (currently amended) The system of claim 1, in which an arrangement of
2 the cameras and an arrangement of the display units, with respect to the
3 display unit, are substantially identical, and the number of cameras and the
4 number of display units is greater than two.

1 28. (currently amended) The system of claim 1, in which the plurality of
2 cameras acquire ~~high-dynamic range videos~~ the video of high dynamic light-
3 fields.

1 29. (currently amended) The system of claim 1, in which the display units
2 display ~~high dynamic range images~~ of the output videos as high dynamic
3 light-fields.

30. (canceled)

31. (canceled)